

THE ATMOSPHERIC RESERVOIR

Examining the Atmosphere and Atmospheric Resource Management

Precipitation mapping has a variety of uses

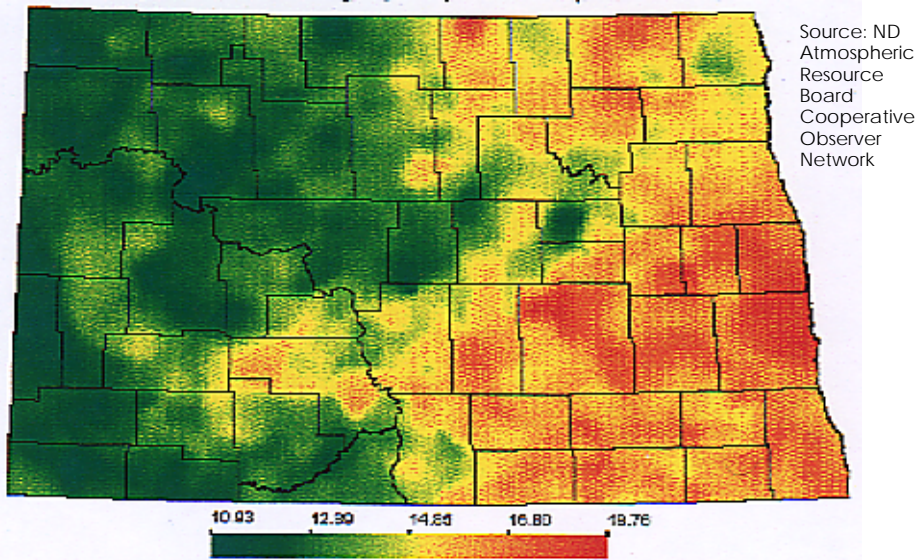
by Darin Langerud

Rain and hail are reported by the Atmospheric Resource Board's 850 volunteer observers for April through September of each year. After each month's reports are entered into our database, maps are generated via a Geographic Information System (GIS) computer software program. The result is a color scale image depicting the rainfall patterns state-wide for that period. Scaling is set up so that for each month a particular color always corresponds to a particular amount of rain. That way each map can be compared easily with one another. Color scales generally show cool colors, or blues, as lower rainfall amounts and warm colors, reds and pinks, as higher amounts. Our GIS software also allows the addition, subtraction and averaging of many months of data further enhancing its value.

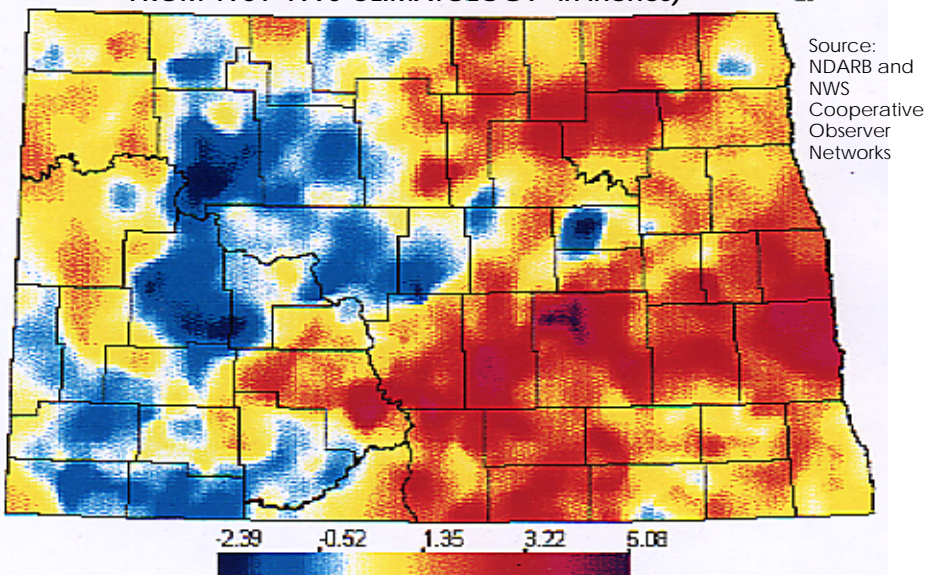
At right are two examples of what mapping can illustrate. The first map shows the average April through September rainfall for the years 1993 through 1998. As you can see, the average for the six-year period ranges from about 11 inches in the northwest to almost 19 inches in areas of the east. The second map shows the annual deviation for those six years from the 30 year normals. It illustrates that most of the state has seen wetter than normal growing season conditions for the past six years. It also points out part of the reason for the flooding in the Devils Lake basin and the extremely high groundwater tables in northwestern Stutsman county.

These are just a couple of illustrations of what rainfall mapping can do. Currently, monthly and seasonal

1993-1998 ARB AVERAGE APR.-SEPT. PRECIPITATION in inches)



DEVIATION OF 1993-1998 APR.-SEPT. PRECIPITATION FROM 1961-1990 CLIMATOLOGY in inches)



maps for the 1990s are available on our web page with 1999 and older historical data arriving as it is completed. If you have any questions about our data or mapping capabilities, contact us via one of the means listed here. ■

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